SYSTEMS MANAGEMENT IN THE BEEF INDUSTRY*

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There is a difference, you know, between the little noises an orchestra makes when the individual players are concerned with their last-minute preparations and the tuning of their instruments, and the fine sound it makes when the conductor finally lowers his baton for the opening note. That difference is systems management.

There is carved in the stone above the entrance to the National Archives in Washington the words "Past is Prologue." A tourist, passing the building in a taxicab, saw the inscription and asked his driver what it meant. "Means 'You Ain't Seen Nothing Yet!'" the driver told him.

Perhaps past is prologue in the beef industry too, and what we will see will be like nothing that came before, because the beef industry is like the orchestra, and a performance is beginning.

. . .

There are some inherent dangers to me in my presence here with you today. I want you to know that some of them have occurred to me. This is, after all, the third time that some of you have heard me and, since you are astute people, I am confident that I am progressing nicely at the business of wearing out my welcome. I come each time with the same old story; the same shopworn convictions. But worst of all, I am an

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economist who came here two and one-half years ago to forecast a decade and now, 25 percent of the way into that decade, and therefore vulnerable, I have returned. Because the very act exposes a certain simple-mindedness, this sort of behavior is regarded among intelligent economists as poor professional form. Even rudimentary criminal minds understand that it is usually unwise to return to the scene of the crime.

Now it is time to find a focal point in these remarks and it is this: From time to time I arrive at some rather firm yet tentative conclusions about where the beef industry might be led by various tendencies and developments. The firmness of these beliefs comes from an awareness that they fit the evidence I have seen. I think those beliefs are reasonable because they reflect necessary and workable developments in an industry filled with intelligent men. But my viewpoints remain tentative because there is new evidence every day and there is always so much evidence that none of us ever see more than a little of it. It is worthwhile to re-examine some of the trends and projections that we can entertain with confidence.

Some Summary Trends and Projections

(Figure 1) A few years ago it seemed to me and to many others that conditions effecting the beef industry in 1980 might look something like this. The evidence presented the very picture of health and growth for the beef industry.

(Figure 2) If industry growth of such magnitude was to occur, it would have to occur along certain lines. Here are some of them. Note that they do not include the prospect of continued easy growth by decimating dairy herds or increasing the share of fed beef in total consumption.

Most of the exploitation of those easy tactics had already occurred. Most of the growth possibilities listed here, on the other hand, require some devoted attention to methods not so easily mastered.

(Figure 3) Changes occurring in marketing do not allow much room for easy solutions either. We are familiar with most of these continuing changes but tend, I think, to underestimate the pressure which retail bargaining power imposes on meatpackers, and the implications this holds for cattle marketing and production when packers are forced to go out and do what they must do when they buy.

(Figure 4) Like falling dominoes, these changes do not stop at some edge of the commercial system. Things happen elsewhere, too; in legislatures, in agencies of government, in programs of research, in the plans of competing commercial systems. We will doubtless explore some of these developments in detail as the week progresses.

(Figure 5) So much for old projections. Here are some new projections, which I show you with not too much reluctance, for they serve to confirm the older forecasts. Here are amended projections, based on newer evidence, and some added forecasts not seen before. Note that population estimates tend toward a conservative figure, but that per capita consumption expectations are higher. A consequence is that total beef consumption remains about the same, slightly higher. Some prices are projected. Having spent some time playing with the numbers that would effect 1980 prices, I find that I regard the cattle prices here as something we might reasonably expect. I think they may be conservative.

(Figure 6) Here are some 1985 guesses, and let us regard them as that. There is an interesting aspect to consider here, however. Judging by

prices, and these are 1980 prices, understand, these numbers do not project a picture of scarcity, but of plenty. They assume much and they say much. Let me summarize some points: (1) Judging from prices, they assume that the industry will in fact produce the quantity that is desired. But they say nothing about the ability of the industry to accomplish that task, nor do the numbers question the structure of an industry that would accomplish so much. (2) A second matter is to question the per capita consumption figure. Does 159 pounds represent the amount of beef that consumers would be willing to eat? Or does it only represent the amount of beef that consumers would have the money to buy? There are 227 pounds of beef and pork in this figure, and no mention of poultry or fish. Given the limited capacity of human stomachs, we will waste alot of the meat we carry home in 1985, judging by these figures. I do doubt that beef consumption will increase by 27 pounds per capita in the five years from 1980 to 1985. (3) Finally, I think these estimates were influenced by an estimate of high disposable income. I think such an estimate would be correct; money will probably be plentiful. But plentiful money means persistent inflation, and I see no inflation in cattle prices between 1980 and 1985 in these figures. So I suppose that, if the industry would indeed grow this fast, most of the fun might be gone from it before 1985, and most of the profit might be realized by 1980.

(Figure 7) Any way you look at it, there seems to be a friendly market for more beef. But because the job to be done is so massive, so difficult, and so lucrative, I think a friendly market can mean unfriendly bedfellows. We know this, but I think we underestimate it. We tend

to dismiss some little ones, like soybeans, as unworthy of consideration, and to overlook completely the most threatening one of all. While we tend to be aware of other fellows producing other products, we tend to overlook the possibility of other people running our own production plant. Given the nature of the job to be done, sometimes I wonder if we really know who will do it?

(Figure 8) One thing we do know. Little producers are leaving. In the ancient 10 years between 1954 and 1964 a half million farms quit selling cattle. Almost all of them were small outfits, selling 20 cattle or less. Perhaps they needed to go and, as we speak of the dead maybe they are better off now. But as they left, someone else arrived. By 1964, when there remained 1.4 million farms selling cattle, please notice that among them all, only 6,000 farms, a tiny fraction, sold one-third of all the cattle.

(Figure 9) Little producers are leaving. Yes. And big ones are arriving. One of the things that accounts for the sales from 6,000 farms, I would guess is, is that many of those "farms" are feedlots. Feedlots with over 1,000 head still account for only a small fraction of all the feedlots, but in 1970 they sold 55 percent of all the fed cattle.

Some Fundamentals of Economic Production

The disapperance of small producers and the arrival of large operations that tax our imaginations is an occurrence that all of us have witnessed. While we are aware that those who leave are usually small, we should understand that they were small because they had only limited control over the means to produce. They lacked sufficient land or capital, or labor, in many cases, and perhaps they were lacking in the skills by which those

things could be managed. Similarly, what seems to disturb us when we witness the arrival of new participants is not so much their very size, but the meaning of that size in terms of the management and control of the land and capital and labor they represent. That is what disturbs us. The acquisition of capital; the management of risk; the bookkeeping that extracts a profit where experience has taught us profit is hard to find; these things, like gray and formless ghosts, are the mysteries that disturb us.

Perhaps we will have some success, as the week progresses, in giving some form and color to these mystifying things. Perhaps we can make a start by appreciating that these considerations are not so strange as they may seem. All economic production shares some fundamental common denominators. However arcane the production of computers may seem, for example, that activity shares much in common with beef production. In all cases of production there are obscure similarities that are much more important than the differences that are apparent.

As a basis for opening the week's discussions which follow, I should like to offer for your consideration a viewpoint that all economists share concerning the fundamental similarities which underly all forms of production. It is necessary to preface these observations with a summary of some assumptions that economists share. It is these assumptions which yield the rather remarkable unity of opinion among economists about the underpinnings of economic production.

(Figure 10) We are in an age when regard for ecological problems has become a fashionable concern. Let us borrow an ecological term. Economists have been long aware of "Spaceship Earth," and the problems

that emerge when human animals display insatiable appetites for an endless array of wants. To assist in the wise allocation of limited means among limitless ends is the business of economists. Economic production is the business of creating economic value. What economic value is depends upon one's viewpoint. That viewpoint is affected by whether one is a buyer or a seller.

(Figure 11) A seller sees value from the vantage point of recovering his costs of production; the marketplace must award him at least that amount. Now what is common to all production and the sale of products is that it is, in all cases, based upon the application of four, limited means of producing. All production of all kinds employs the same, four means to produce, and it does not matter whether the product is steel or computers or cattle.

(Figure 12) A buyer finds that value lies in the ability of things to satisfy his needs. While a buyer can afford to display a certain indifference toward the means of production and the costs it entails, he is not the least indifferent about the sacrifice of dollars he must make to acquire his means of satisfaction. Now what is interesting about this satisfaction he gains in the marketplace, is that what satisfies him is always a package of four forms of usefulness. Every single thing he buys, however rationally or irrationally, or objectively or emotionally he perceives its value to him, that thing always displays four ways to satisfy. It does not matter whether that thing is a good or a service, whether it is a haircut or a meal, or a home or a car, he finds in that purchase four dimensions of satisfaction. When

economists say that economic production is the business of creating economic value, it is this kind of value they are talking about. Use value.

(Figure 13) All production is the process of converting limited means into useful ends. This conversion occurs, always, through the completion of ten essential activities. To the extent that any of these functions is slighted, to that degree is use value impaired. All of these things occur in the transformation of Alberta calves into Ontario steaks, which Ottawa housewives obtain in suburban supermarkets for the sacrifice of an amount of dollars which, collectively, they determine. And precisely these same things occur in the transformation of ore into steel into airplanes, for me to ride between Columbus and Calgary. This is economic production. The necessities are always the same.

A Systems Approach to Management

What is changing is the means by which these necessities are accomplished. The change is occurring in response to several developments, some of which included: (1) The accumulation of capital stock in wealthy, industrial nations. This takes the form of highly developed skills and their physical manifestations. (2) This accumulation occurs at an accelerating rate; the tools get ever-more complex, they appear at an ever-increasing rate, they arrive in larger, more expensive chunks. (3) Their very sophistication and cost induces two sorts of change: One of these is that a high degree of technical understanding is required to manipulate the tools and the other is that a great output volume is required, over which to spread the massive costs. (4) A consequence

of these developments is that barriers to entry arise. Not everyone has the skills to permit an eligible entry; not everyone can generate the volume that will justify the tools. Hence, behind those barriers their resides an awsome display of intellect, a sobering array of tools. And those behind the walls find that this is not an unmixed blessing. The machinery is so intricate, the production capacity is so immense, that even the slightest mistake carries costs that are measured in massive markets lost and executive careers abruptly ended.

Now these mistakes are always mistakes somewhere in those ten essential functions; mistakes which blighted a use value somewhere, and cost a market and some careers. The importance which is attached to avoiding mistakes becomes paramount. It is true, is it not, that a one-dollar mistake on five million cars will cost General Motors five million dollars, right out of profit?

Mistakes are avoided by a disciplined attention to details. The means for achieving this discipline is the systems approach to management. A systems approach to management is to successfully orchestrate ten essential functions, and their multitude of aspects, as in a fine symphony, containing no incompetent musicians, playing no discordant notes.

The trends and developments I have outlined for the beef industry have about them the essential characteristics which suggest quite firmly that a systems approach to their management will enjoy a handsome reward. I am confident that skilled people, with a sensitivity to the prospect of a handsome reward, are focusing their attention on the beef industry.

FIGURE I

1980 PROJECTIONS[a/]

(U. S. Beef Economy)

U.S. POPULATION (millions)	228 - 235
PER CAPITA BEEF CONSUMPTION (pounds)	128
DOMESTIC BEEF CONSUMPTION (billion pounds)	30.1 (235 - 128)
DOMESTIC BEEF PRODUCTION (billion pounds)	28.8
(1969 production)	(20.8)
(1954 production)	(13.0)
JANUARY I BEEF COW INVENTORY (millions)	44 - 46

a/ Source: Stout, Thomas T., Performance and Control in the U. S. Beef Industry in 1980, Fifteenth Annual Workshop of the Canadian Agricultural Economics Society, Banff, Alberta, June 7-12, 1970. The projections were in turn based on numerous sources cited in that presentation.

FIGURE 2

TRENDS FOR THE 1970's[a/]

(U.S. Beef Economy)

BEEF PRODUCTION TRENDS

BETTER COW CONCEPTION RATES

LARGER CALF CROPS (90 percent or better)

IMPROVED RATES OF GAIN

IMPROVED GAIN EFFICIENCY

HEAVIER CARCASS WEIGHTS

LESS CARCASS FAT

MORE FEEDING OF BULLS

MORE ATTENTION TO CROSSBREEDING

MORE COMMERCIAL FEEDLOTS

-Sharply profit motivated

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a/ Source: Stout, Thomas T., Performance and Control in the U.S. Beef Industry in 1980, Fifteenth Annual Workshop of the Canadian Agricultural Economics Society, Banff, Alberta, June 7-12, 1970. The projections were in turn based on numerous sources cited in the presentation.

FIGURE 3

TRENDS FOR THE 1970's[a/]

(U.S. Beef Economy)

CATTLE AND BEEF MARKETING TRENDS

TOUGHER RETAIL SPECIFICATIONS

- Formula Pricing
- Rigid Quality Control

MORE FOOD CONSUMED AWAY FROM HOME

MORE PACKER ADVERTISING ON PROCESSED PRODUCTS

MORE CENTRAL PACKAGING

MORE PACKER LOCATIONS AT INTERIOR POINTS

MORE SELECTIVE BUYING BY PACKERS

MORE DIRECT BUYING

- Resistance by established markets

MORE CARCASS PRICING

MORE ATTENTION TO CUTABILITY GRADES

MORE CONTRACT PRODUCTION

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a/ Source: Stout, Thomas T., Performance and Control in the U.S. Beef Industry in 1980, Fifteenth Annual Workshop of the Canadian Agricultural Economics Society, Banff, Alberta, June 7-12, 1970. The projections were in turn based on numerous sources cited in the presentation.

FIGURE 4

TRENDS FOR THE 1970's[a/]

(U. S. Beef Economy)

INSTITUTIONAL AND TECHNICAL DEVELOPMENTS

POSSIBLE CHANGES IN FEDERAL GRADING

- Palatability-cutability conflicts
- Accomodations for bulls

POSSIBLE CHANGES IN MARKET NEWS REPORTING

- More carcass price reporting
- "Standard Trade" price reporting

UNIFORM FEDERAL INSPECTION IN PACKING PLANTS

MORE POSITIVE CARCASS IDENTIFICATION

PROGRESS IN CONTROLLING OFFSPRING SEX

PROGRESS IN PERISHABILITY CONTROL

PROGRESS IN PALATABILITY CONTROL

PROGRESS IN VEGETABLE PROTEIN SYNTHESIS

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a/ Source: Stout, Thomas T., Performance and Control in the U. S. Beef Industry in 1980, Fifteenth Annual Workshop of the Canadian Agricultural Economics Society, Banff, Alberta, June 7-12, 1970. The projections were in turn based on numerous sources cited in the presentation.

FIGURE 5

1980 PROJECTIONS - AMENDMENTS AND ADDITIONS[a/]

U.S. POPULATION (millions)	229.3	
PER CAPITA BEEF CONSUMPTION (pounds)	132.1 (108.2 fed)	
DOMESTIC BEEF CONSUMPTION (billion pounds)	30.3 (229.3 X 132.1)	
DOMESTIC BEEF PRODUCTION (billion pounds)		
PER CAPITA DISPOSABLE INCOME (current prices)	$5,425.00	
NO. 2 YELLOW CORN PRICE (bushel)	$1.57	
PER CAPITA PORK CONSUMPTION (pounds)	62.7	
AVERAGE SLAUGHTER HOG PRICE (hundredweight)	$25.10	
AVERAGE CHOICE STEER PRICE (hundredweight)	$42.50 (approx 1075 lbs)	
AVERAGE CHOICE FEEDER STEER PRICE (hundredweight)	$55.00[b/]	(500 lbs)

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(ALL OTHER PROJECTIONS (FIGURES 2-4) REMAIN THE SAME)

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a/ Source: Most of the projections cited above can be found in Duymovic, A., Crom, R., and Sullivan, J., Effects of Alternative Beef Import Policies on the Beef and Pork Sectors, Agricultural Economics Report No. 233, Economic Research Service, U.S. Department of Agriculture, Washington, D.C., October, 1972. Cited figures are base projections reflecting present import policies. Further data is available on request from the authors. While these projections enjoy "official" status it is important to recognize that a figurative and intelligent interpretation is required. Figures as specific as these merit judicious treatment rather than literal acceptance.

b/ Estimated by Stout, Thomas, based on $25 per cwt. total feeding costs inflated 3 percent annually to 1980. From a total slaughter steer value at 1075 lbs. is subtracted the inflated cost of 575 pounds of gain, yielding a choice feeder steer value which is divided by 5 cwt.

FIGURE 6

MORE PROJECTIONS - 1985[a/]

U.S. POPULATION (millions)	245	
PER CAPITA BEEF CONSUMPTION (pounds)	159 (129 fed)	
DOMESTIC BEEF CONSUMPTION (billion pounds)	39	
DOMESTIC BEEF PRODUCTION (billion pounds)		
PER CAPITA DISPOSABLE INCOME (current prices)	$6,630	
NO. 2 YELLOW CORN PRICE (bushel)	1.71	
PER CAPITA PORK CONSUMPTION (pounds)	68	
AVERAGE SLAUGHTER HOG PRICE (hundredweight)	$26.40	
AVERAGE CHOICE STEER PRICE (hundredweight)	$42.00	(approx. 1100 lbs)
AVERAGE CHOICE FEEDER STEER PRICE(hundredweight)	$50.00[b/]	(500 lbs)

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(ALL PROJECTIONS (FIGURES 2-4) REMAIN THE SAME)

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a/ Source: Unpublished figures estimated by Federal employees. They are not official estimates of any Federal or State Agency.

b/ Estimated by Stout, Thomas, based on $25 cwt. total feeding costs inflated 3 percent annually to 1985. From a total slaughter steer value at 1100 lbs. is subtracted the inflated cost of 600 pounds gain, yielding a Choice feeder steer value which is divided by 5 cwt.

FIGURE 7

ALL OF THIS SEEMS TO MEAN:

A BIG MARKET FOR BEEF

COMPETITION FOR DOLLARS SPENT ON BEEF

- from imports (a small threat)
- from other meats (an available threat)
- from non-meat substitutes (a real threat)

COMPETITION IN BEEF PRODUCTION METHODS (The BIG Threat)

- in husbandry skills
- in management skills
- in systematic organization of

PRODUCTION

PURCHASING

MERCHANDISING

HANDLING

FINANCING

RISK MANAGEMENT

MARKET INTELLIGENCE

SUPERVISION

WHO WILL DO THESE THINGS?

- Friends?
- Strangers?

FIGURE 8

SMALL PRODUCERS ARE LEAVING

Thousands of U. S. Farms Selling Cattle, Thousands of Cattle Sold, and Cattle Sold per Farm, Census Years, 1954 and 1964 (calves excluded)

Cattle Sold per Farm	Farms Selling Cattle 1954*	1964	Total Sales, 1964 Number	Percent
1-4	1,028	616	1,349	3.8
5-19	595	478	4,445	12.8
20-49	157	152	4,532	13.1
50-99	47	59	3,965	11.5
100-199	20	32	4,234	12.2
200 or more	12	17	4,833	14.0
500 or more**	--	6	11,248	32.6
Total All Farms	1,859	1,360	34,606	100.0

*Alaska and Hawaii not included.

**Applies only in 1964 when preceding interval was 200-499.

Source: 1964 U. S. Census of Agriculture, Vol. II, Chapter 2.

Census data for 1969 not available at this date.

FIGURE 9

BIG PRODUCERS ARE ARRIVING

Number of Cattle Feedlots and Fed Cattle Marketings by Size of Feedlots, 32 Principal Feeding, States, U. S. 1962-1970

	Feedlots More Than 1,000 Capacity			Feedlots Less Than 1,000 Head Capacity		
Year	Number of Lots	Cattle Marketed (1,000 Head)	Percentage of All Cattle Marketed	Number of Lots	Cattle Marketed (1,000 Head)	Percentage of All Cattle Marketed
1962	1,517	5,572	36.5	234,646	9,689*	63.5
1963	1,579	6,118	37.6	230,825	10,156*	62.4
1964	1,668	7,050	38.9	223,071	11,094	61.1
1965	1,787	7,941	42.4	220,164	10,777	57.6
1966	1,921	9,026	44.3	215,296	11,336	55.7
1967	2,034	9,822	45.3	209,581	11,874	54.7
1968	2,080	10,823	47.0	206,516	12,217	53.0
1969	2,181	12,688*	51.5	198,200	11,957*	48.5
1970**	2,242	13,675	55.0	181,508	11,205	45.0

*Adjustments in total fed cattle marketings were made by the author. Two estimating series report marketings before and after 1964. They early series reports 1962-64 marketings at 14.361, 15.314, and 17.074 million head. The later series reports 1964 at 18.144 million head, 6.27 percent higher. The figures were adjusted by 6.27 pct. for 3 years in the older series to 15.261, 16.274, and 18.144 million head.

*Marketings from feedlots with more than 1,000 head were reported for 22 states in 1969. Figures here include 1968 data for 10 states excluded from 1969 report. In the 22 states reported, feedlots with more than 1,000 head marketed 51.8 percent of total.

**Twenty-three states only

Sources: For fed Cattle marketings in feedlots with less than 1,000 head in 1963-63, annual supplements to Livestock and Meat Statistics, Statistical Bulletin 333, SRS, USDA, July, 1963. For all other 1962-66 data, Number of Cattle feedlots by Size Groups, SRS-14, Crop Reporting Board, SRS, USDA, July, 1968. For 1967-70 data, Cattle on Feed, Crop Reporting Board, SRS, USDA, January issues 1969-71.

FIGURE 10

WHAT DOES AN ECONOMIST BELIFVE?

AN ECONOMIST BELIEVES:

1. IN "SPACESHIP EARTH."
2. THAT PEOPLE HAVE LIMITLESS WANTS.
3. THAT "SPACESHIP EARTH" OFFERS ONLY LIMITED CAPACITY TO MEET UNLIMITED WANTS.
4. THAT IT IS IMPORTANT TO BE JUDICIOUS IN ALLOCATING LIMITED MEANS AMONG LIMITLESS ENDS.
5. THAT PEOPLE PLACE VALUE ON LIMITED AND USEFUL MEANS TO MEET DESIRED ENDS.
6. THAT "ECONOMIC" PRODUCTION IS THE BUSINESS OF CREATING USEFUL WAYS TO MEET THESE ENDS.
7. IT'S A GOOD IDEA. IT WORKS LIKE THIS:

FIGURE II

ALL LIMITED MEANS CAN BE CLASSED INTO FOUR CATEGORIES

LAND

LABOR

CAPITAL

MANAGEMENT

AND FROM THESE FOUR LIMITED MEANS COME ALL PRODUCTION OF ALL GOODS AND SERVICES, OF WHATEVER KIND AND DESCRIPTION.

STEEL

AIRPLANES

HAIRCUTS

SKYSCRAPERS

CATTLE

EVERYTHING

FIGURE 12

ONLY THINGS THAT ARE SCARCE AND USEFUL HAVE VALUE TO THEIR CONSUMERS.

ALL MAN-MADE THINGS OF ANY KIND OR DESCRIPTION HAVE VALUE TO CONSUMERS BECAUSE THEY REPRESENT A PACKAGE OF FOUR CATEGORIES OF USEFULNESS.

FORM

TIME

PLACE

POSSESSION

ONLY THESE FOUR WAYS DOES ANY CONSUMER FIND ANY USEFULNESS IN ANY SCARCE GOODS OR SERVICES OF WHATEVER KIND AND DESCRIPTION.

AUTOMOBILES

AIRPLANES

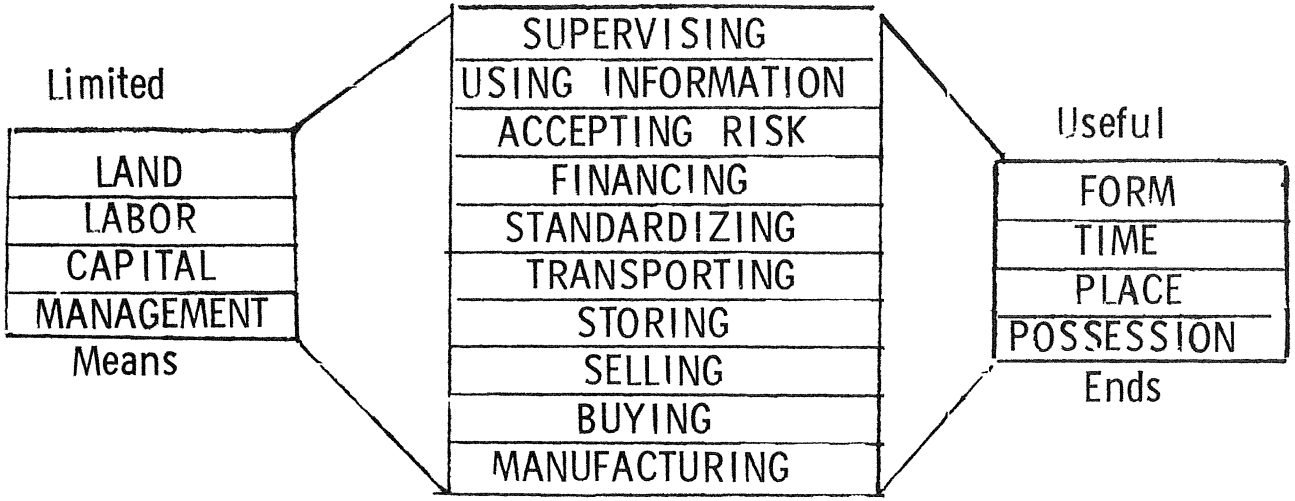
HAIRCUTS

OFFICE SPACE

STEAKS

FIGURE 13

CREATING USE VALUE BY TRANSFORMING LIMITED MEANS INTO USEFUL ENDS OCCURS, IN ALL CASES, THROUGH THE COMPLETION OF TEN CARDINAL FUNCTIONS



TO ORGANIZE ALL THESE NECESSITIES, AND TO DEVOTE TO THEM THE BEST SKILLS THAT ARE AVAILABLE, IN ORDER TO MAXIMIZE THEIR INTERDEPENDENT BENEFITS, IS WHAT IS MEANT BY A SYSTEMS APPROACH TO MANAGEMENT